

What is claimed is:

1. A vapor compression refrigeration system that transfers heat from a low temperature side to a high temperature side, the vapor compression refrigeration system comprising:

a compressor that draws and compresses refrigerant;

a high pressure side heat exchanger that releases heat from high pressure refrigerant discharged from the compressor;

a low pressure side heat exchanger that vaporizes low pressure refrigerant;

an ejector that increases intake pressure of the compressor and includes:

a nozzle arrangement that depressurizes and expands high pressure refrigerant supplied from the high pressure side heat exchanger; and

a pressurizer arrangement that draws vapor phase refrigerant, which is vaporized in the low pressure side heat exchanger, through use of high speed refrigerant flow discharged from the nozzle arrangement and converts expansion energy of the refrigerant discharged from the nozzle arrangement into pressure energy; and

a gas-liquid separating means for separating the refrigerant discharged from the ejector into vapor phase refrigerant and liquid phase refrigerant, wherein:

the gas-liquid separating means has a vapor phase refrigerant outlet for outputting the vapor phase refrigerant and a liquid phase refrigerant outlet for outputting the liquid

phase refrigerant, and the vapor phase refrigerant outlet and the liquid phase refrigerant outlet of the gas-liquid separating means are connected to a refrigerant inlet of the compressor and a refrigerant inlet of the low pressure side heat exchanger, respectively; and

at least the gas-liquid separating means and the low pressure side heat exchanger are arranged in a common casing.

2. A vapor compression refrigeration system according to claim 1, wherein at least a portion of the ejector is arranged in the casing.

3. A vapor compression refrigeration system according to claim 1, wherein at least the pressurizer arrangement of the ejector is arranged in the casing.

4. A vapor compression refrigeration system according to claim 1, further comprising a blower that blows air toward the low pressure side heat exchanger, wherein the gas-liquid separating means is disposed in an air flow generated by the blower.

5. A vapor compression refrigeration system according to claim 4, wherein the gas-liquid separating means is located downstream of the low pressure side heat exchanger in the air flow generated by the blower.

6. A vapor compression refrigeration system according to claim 2, further comprising a blower that blows air toward the low pressure side heat exchanger, wherein the portion of the ejector, which is arranged in the casing, is placed in an air flow generated by the blower.

7. A vapor compression refrigeration system according to claim 1, pressure loss, which occurs in a refrigerant passage from a refrigerant outlet of the ejector to a refrigerant inlet of the ejector through the gas-liquid separating means and the low pressure side heat exchanger, is set to a level smaller than an amount of pressure increase in the pressurizer arrangement.

8. A vapor compression refrigeration system according to claim 1, wherein the low pressure side heat exchanger, the ejector and the gas-liquid separating means are integrated together.

9. A vapor compression refrigeration system according to claim 1, wherein the vapor compression refrigeration system is operated such that the temperature in the low pressure side heat exchanger is kept equal to or below zero degrees Celsius.